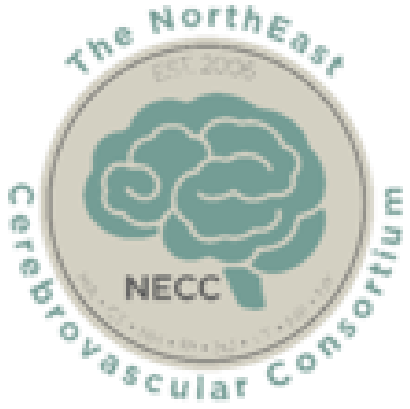
The 12th Annual NECC Summit



State Breakout Sessions

Upstate New York

GWTG-Stroke Data

January 2016 – December 2016

Agenda

1. Review data from GWTG-Stroke

2. Review Mission: Lifeline stroke triage algorithm

3. Discuss our challenges and opportunities

Arrival Mode, 2016
by New York Region
% of patients (number of patients)

Arrival Mode	New York Region						
	NYC	Long Island	Hudson Valley/ Westchester	Capital/ Northeastern	Central	Rochester/ Finger Lakes	Western
EMS from home/scene	59.7% (9,518)	51.1% (4,170)	54.5% (2,699)	48.9% (1,456)	61.5% (2,080)	50.2% (1,962)	48.3% (1,849)
Private transport/ taxi/other from home/scene	29.4% (4,681)	37.4% (3,055)	35.2% (1,745)	25.9% (771)	20.8% (703)	34.3% (1,342)	30.6% (1,173)
Transfer from other hospital	9.8% (1,566)	11.0% (897)	10.1% (501)	24.9% (741)	16.8% (567)	14.0% (548)	20.7% (793)
Not documented or unknown	0.9% (148)	0.5% (37)	0.2% (8)	0.3% (9)	0.9% (30)	1.4% (53)	0.3% (13)
Total N	15,937	8,160	4,955	2,977	3,382	3,910	3,828

- Cases with a "blank" for Arrival Mode are not listed here, therefore the sum of the number of patients for each arrival mode may not equal the "Total N" for each region.

Last Known Well to ED Arrival Times, 2016

(For patients who arrive by EMS from home/scene),
by New York Region
% of patients (number of patients)

LKW to Arrival Time Group	New York Region						
	NYC	Long Island	Hudson Valley/ Westchester	Capital/ Northeastern	Central	Rochester/ Finger Lakes	Western
0-30 min	3.7% (351)	3.4% (140)	3.9% (104)	3.2% (46)	2.3% (48)	3.0% (59)	2.2% (40)
31-60 min	10.5% (993)	13.6% (561)	13.8% (371)	10.1% (146)	12.5% (259)	10.2% (200)	10.1% (187)
61-120 min	12.2% (1,150)	11.2% (462)	14.1% (377)	16.2% (235)	17.0% (353)	15.6% (305)	14.3% (263)
121-180 min	5.9% (557)	5.5% (228)	6.2% (166)	8.1% (117)	6.9% (143)	6.4% (125)	6.1% (112)
181-540 min	12.7% (1,198)	35.3% (507)	13.1 (351)	15.2% (220)	16.6% (345)	12.8% (250)	13.6% (250)
>540 min	14.1% (1,329)	11.1% (461)	9.8% (264)	15.3% (221)	15.6% (323)	14.0% (274)	15.1% (278)
LKW or Arrival Time unknown, or Arrival ≥2 days after LKW	42.9% (4,054)	43.6% (1,806)	39.6% (1,061)	32.9% (477)	30.9% (641)	38.9% (761)	39.2% (722)
Total N	9,456	4,137	2,681	1,448	2,073	1,956	1,843

38 | 37.6 | 38.7 | 35.2 | 32.7

- Cases with documented arrival and LKW time, and LKW to arrival ≥ 2 days, will be included in both the ">540 min" and "LKW or Arrival Time unknown, or Arrival ≥ 2 days after LKW" categories.

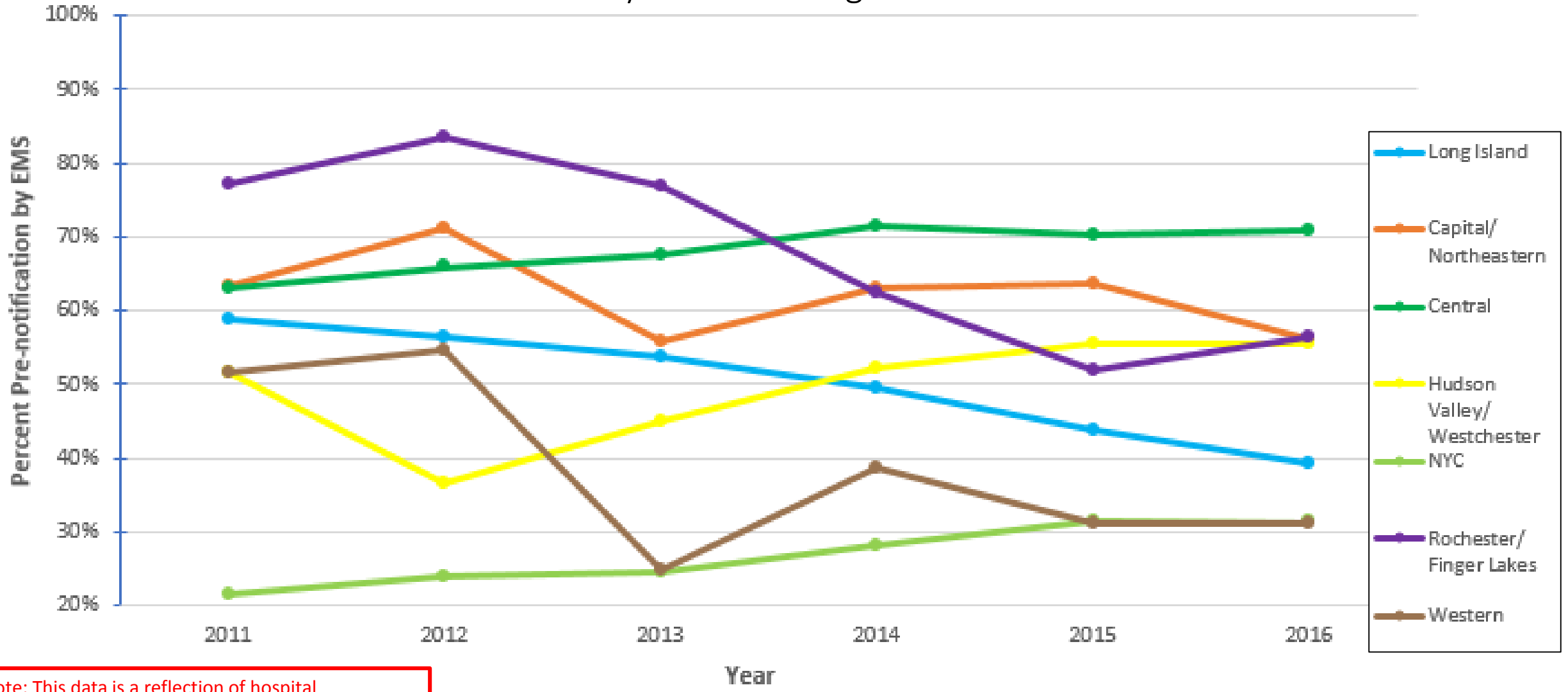
Additional Stroke Care Measures, 2016
by New York Region
% of patients (number of patients)

Measure	New York Region						
	NYC	Long Island	Hudson Valley/ Westchester	Capital/ Northeastern	Central	Rochester/ Finger Lakes	Western
Ischemic Stroke patients who received IV tPA (excluding patients with stroke after arrival)	10.7% (1,203)	9.6% (486)	11.6% (346)	11.0% (224)	12.2% (281)	10.5% (267)	9.4% (246)
Ischemic Stroke patients who received IA catheter-based reperfusion (excluding patients with stroke after arrival)	3.4% (382)	2.2% (113)	2.9% (88)	1.6% (32)	6.0% (138)	3.1% (79)	5.7% (149)

- IA catheter-based treatment includes both pharmacologic thrombolytic therapy and mechanical devices.
- Patients who receive IV tPA or IA catheter-based reperfusion at a non-GWTG hospital, who are subsequently transferred to a GWTG hospital, would not be captured in the measures for % of patients who received IV tPA, or IA catheter-based reperfusion.

Pre-notification by EMS, 2011-2016

(For patients who arrive by EMS from home/scene),
by New York Region

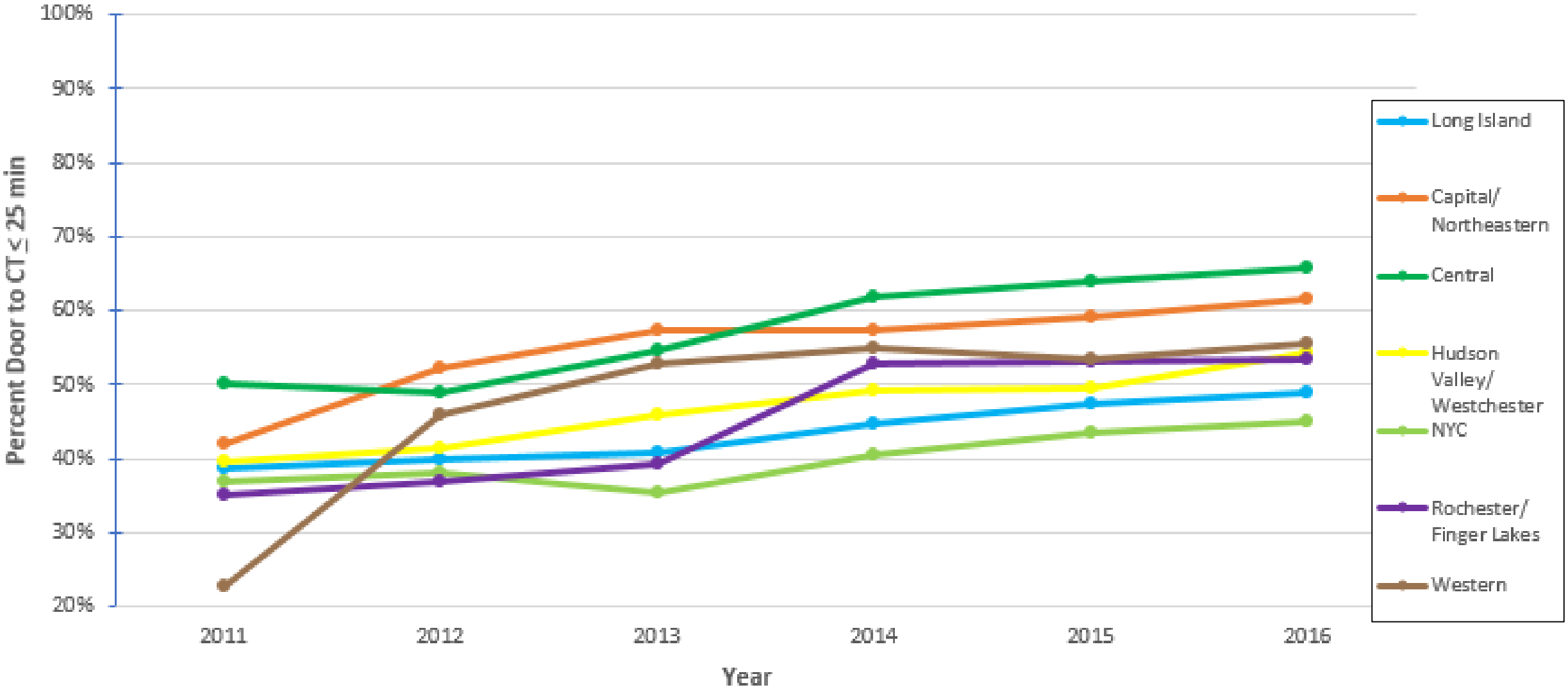


Note: This data is a reflection of hospital documentation of pre-hospital care, and may not be a true reflection of care provided by EMS.

Door to CT ≤ 25 min, 2011-2016

(For patients who arrive by EMS from home/scene)

by New York Region



Stroke Care Measures, 2016
by New York Region
% of patients (number of patients)

	NYC	Long Island	Hudson Valley/ Westchester	Capital/ Northeastern	Central	Rochester/ Finger Lakes	Western
Pre-notification by EMS	31.3% (2,981)	39.3% (1,640)	55.4% (1,496)	56.2% (819)	70.9% (1,474)	56.5% (1,109)	31.2% (577)
Door to CT ≤ 25 min	44.9% (3,349)	49.0% (1,497)	54.4% (1,109)	61.4% (682)	65.7% (1,084)	53.4% (800)	55.6% (824)
Time to IV tPA - 45min (in eligible patients)	50.0% (430)	40.5% (125)	27.2% (70)	29.4% (50)	48.2% (118)	44.6% (95)	61.1% (118)
Time to IV tPA - 60min (in eligible patients)	85.8% (738)	84.8% (262)	67.3% (173)	64.7% (110)	77.1% (189)	82.6% (176)	90.7% (175)

Prenotification Vs Stroke Team Activation PTA

Measure	New York Region						
	NYC	Long Island	Hudson Valley/ Westchester	Capital/ Northeastern	Central	Rochester/ Finger Lakes	Western
Pre-notification by EMS	31.3% (2,981)	39.3% (1,640)	55.4% (1,496)	56.2% (819)	70.9% (1,474)	56.5% (1,109)	31.2% (577)
Stroke team activated prior to arrival**	35.8% (675)	49.5% (437)	36.3% (327)	47.0% (214)	45.9% (373)	71.6% (649)	8.1% (27)

**Percent of patients arriving via EMS for whom the stroke team was activated prior to patient arrival based upon EMS pre-notification.

NYS Department of Health EMS Measures, 2016

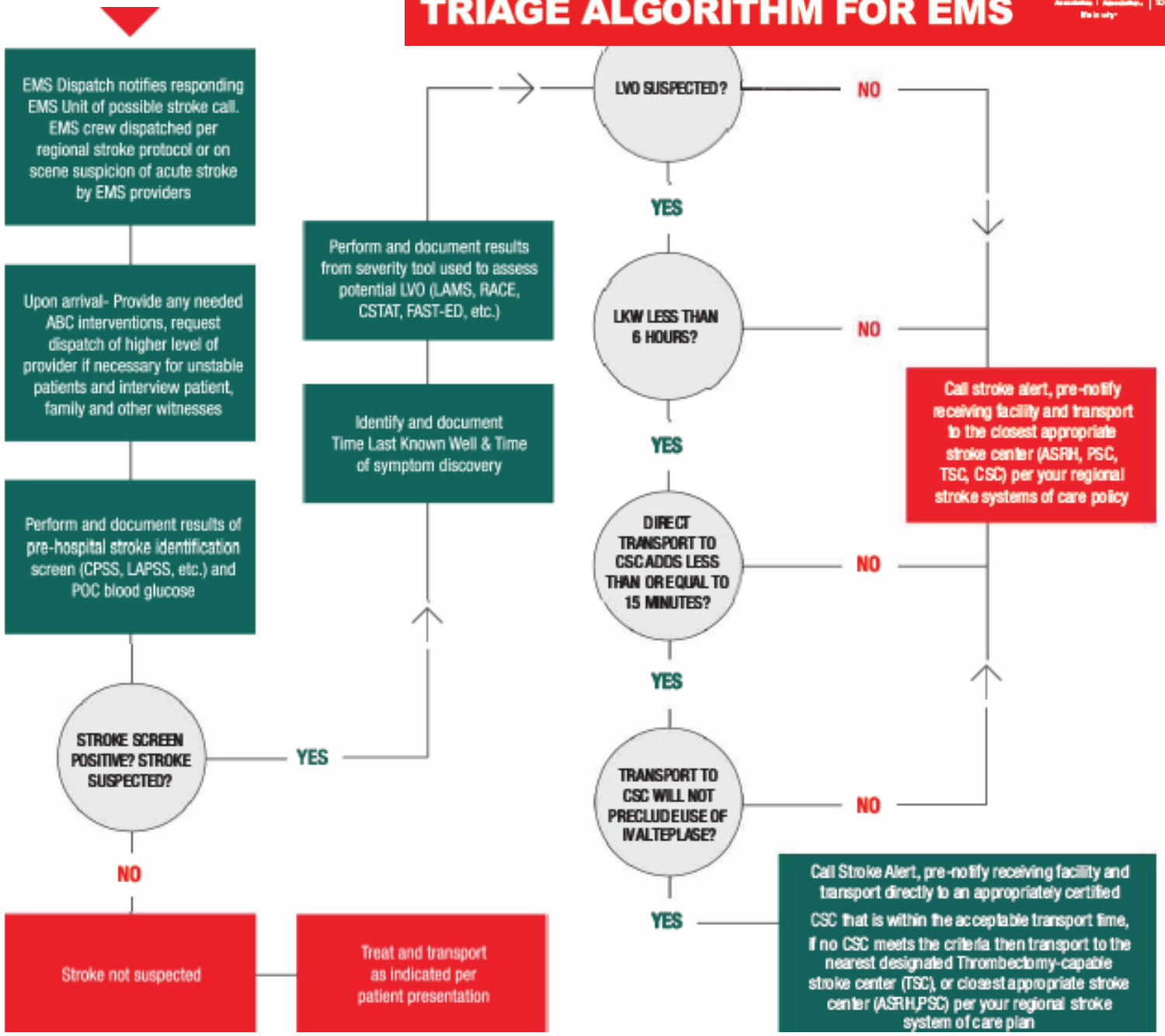
by New York Region

% of patients (number of patients)

Pre-Notification Content*	New York Region						
	NYC	Long Island	Central	Capital/ Northeastern	Hudson Valley/ Westchester	Rochester/ Finger Lakes	Western
Pre-hospital stroke scale findings	43.5% (820)	71.5% (631)	62.9% (511)	33.2% (151)	62.1% (559)	87.4% (567)	69.4% (231)
Patient last known well (LKW)	41% (772)	62.9% (555)	55.6% (452)	33.2% (151)	58.1% (523)	81% (1526)	65.8% (219)
Pre-hospital stroke scale findings AND LKW	37.6% (709)	60.7% (535)	52.3% (425)	30.3% (138)	53.9% (485)	80.1% (520)	61.3% (204)
Total N	1884	882	813	455	900	649	333

*Where prenotification by EMS occurred, information communicated to receiving hospital.

SEVERITY-BASED STROKE TRIAGE ALGORITHM FOR EMS



ON SCENE

- Interview patient, family members and other witnesses to determine Last Known Well (LKW) time and time of Symptom Discovery.
- Attempt to identify possible stroke mimics (eg, seizure, migraine, intoxication) and determine if patient has pre-existing substantial disability (need for nursing homecare or inability to walk without help from others).
- Encourage family to go directly to Emergency Department if not transported with patient and obtain mobile number of next of kin and witnesses.
- If Mobile Stroke Unit available—follow Mobile Stroke Unit Protocol.
- Each EMS agency should utilize a published and validated stroke screen to assess patients with non-traumatic onset of focal neurologic deficits and validated tool to assess possible Large Vessel Occlusion (LVO).
- Patients who are eligible for IV Alteplase if transported to nearest Acute Stroke Ready Hospital (ASRH) or PSC should not be rerouted to a CSC or Thrombectomy-capable Stroke Center if doing so would result in a delay that would make them ineligible for IV Alteplase.
- Collect a list of current medications (especially anticoagulants) and obtain patient history including co-morbid conditions (eg. serious kidney or liver disease, recent surgery, procedures or stroke) that may impact treatment decisions.

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VII. Transport of patient's with signs and symptoms of stroke to the appropriate hospital:

A. Transport the patient to the closest New York State Department of Health designated Stroke Center if the total prehospital time (time from when the patient's symptoms and/or signs first began to when the patient is expected to arrive at the Stroke Center) is less than two (2) hours.

B. Transport the patient to the closest appropriate hospital emergency department (ED) if:

1. The patient is in cardiac arrest, *or*

2. The patient has an unmanageable airway, *or*

3. The patient has (an) other medical condition(s) that warrant(s) transport to the closest appropriate hospital emergency department (ED) as per protocol, *or*

4. The total prehospital time (time from when the patient's symptoms and/or signs first began to when the patient is expected to arrive at the Stroke Center) is greater than two (2) hours, *or*

5. An on-line medical control physician so directs.

Upstate NY – Challenges and Opportunities

- Challenges
  - NY does not recognize Acute Stroke Ready Hospitals or Comprehensive Stroke Centers
  - Diverse geography results in extremes of transport – minutes to many hours
  - Controversial and weather-limited role of aeromedical transport
  - Lots of different data platforms
  - Often many different agencies providing care

Upstate NY – Challenges and Opportunities

- Opportunities
  - Widespread use of CPSS
  - Common EMS protocols across upstate
  - Able to revise stroke protocol NOW
  - Strong desire to regionalize stroke systems of care
  - Regional variation and innovation may be a good thing

Next Steps Across Upstate?

- Protocols?
- Best practices?
- Drip and ship barriers?
- Do we identify “endovascular centers” by EMS region?

CFR

- ABCs and vital signs
- Airway management and appropriate oxygen therapy
- Check a blood glucose level, if equipped.
    - If abnormal, refer to the "Altered Mental Status" protocol
- Determine the "**Last Known Well;**" the **exact time** the patient was **last in his or her usual state of health and/or seen without symptoms** by interviewing the patient, family, and bystanders

CFR STOP

EMT

- Perform a neurological exam, including **Cincinnati Stroke Scale** or other regionally approved stroke scale
- If time from symptom onset to estimated arrival at the nearest NYS DOH Designated Stroke Center will be less than 3.5 hours **(Or 5 or 6?)**, begin immediate transport to that facility.
- With any question regarding the appropriate destination of an acute stroke patient, consult medical control.
- Notify the destination hospital (stroke center or non-stroke center) ASAP of any patient with a suspected stroke regardless of time last known well.

EMT STOP

Prehospital Notification

- Opportunities?
- Best Practices?

Prehospital Feedback

- Opportunities?
- Best Practices?

UR MEDICINE Comprehensive Stroke Center

The Joint Commission CERTIFICATION Meets standards for Comprehensive Stroke Center

American Heart Association / American Stroke Association

STROKE FOLLOW-UP REPORT

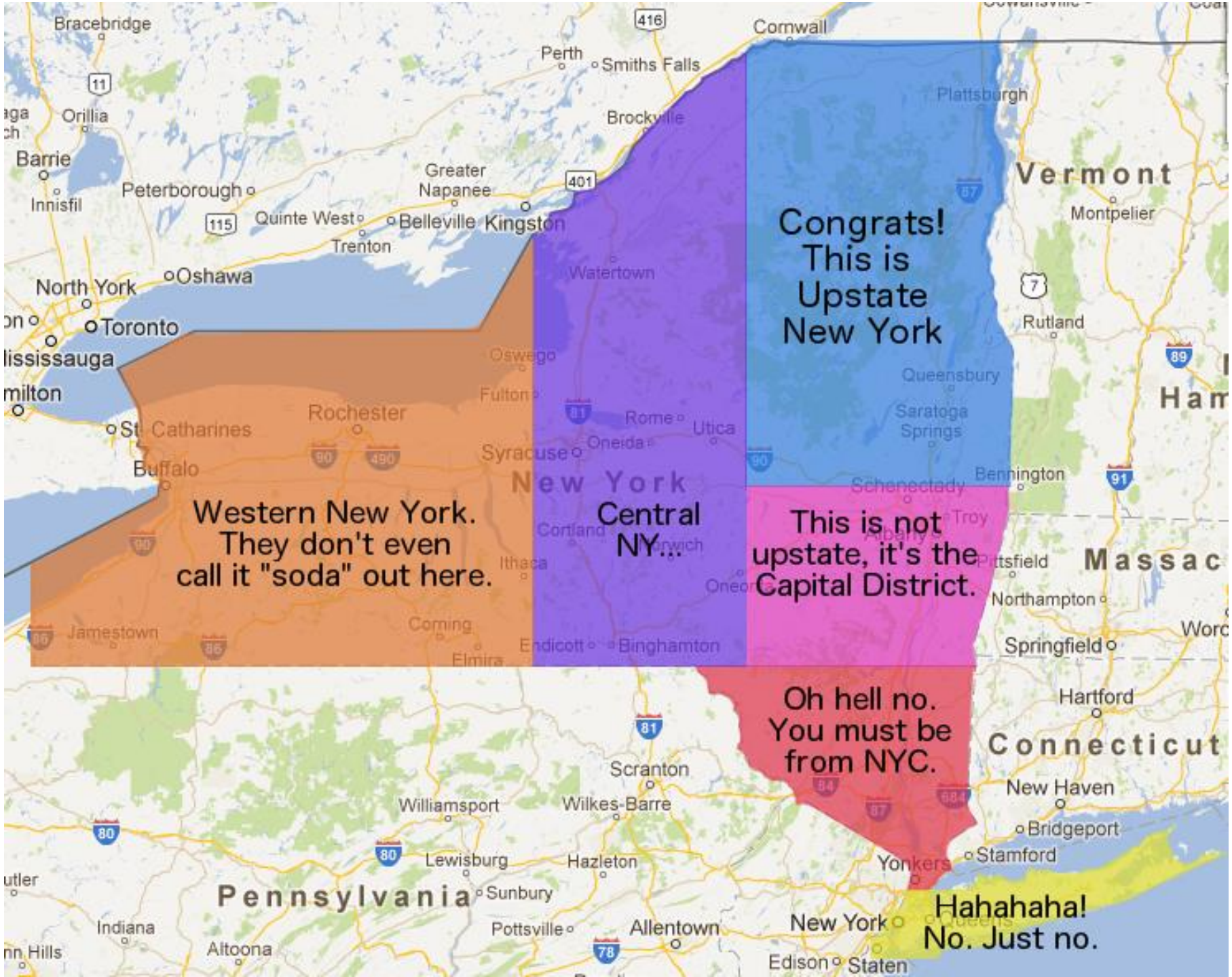
Patient Presentation

- **Agency:** AMR
- **Case #:** 75764
- **Date of Transfer**: 09/18/17
- **Patient History**: Pt was sitting outside with family when she started slurring her speech and drooling. Pt did not answer questions appropriately upon EMS arrival. Pt transferred to SMH for further evaluation.
- **Last Known Well:** 19:40
- **Symptom Discovery:** 19:40
- **Comments:** Pt with right gaze preference, left facial droop, and slurred speech upon arrival to SMH. Follows commands but is not verbal.

Strong Memorial Hospital Presentation

EMS Measures

Indicator	Compliance	Goal
Documented Cincinnati Pre-Hospital Stroke Scale?	YES	YES
Documented time "Last Known Well"?	NO	YES
Documented blood glucose?	YES	YES
Scene Time	12 min	≤ 10 minutes
Pre-notification to SMH	YES	YES


Congrats!
This is
Upstate
New York
Western New York.
They don't even
call it "soda" out here.
Central
NY...
This is not
upstate, it's the
Capital District.
Oh hell no.
You must be
from NYC.
Hahahaha!
No. Just no.
Bracebridge
Perth
Smiths Falls
Cornwall
Orillia
Barrie
Innisfil
Peterborough
Greater
Napanee
Quinte West
Belleville
Kingston
Trenton
Brockville
Plattsburgh
Vermont
Montpelier
Rutland
Watertown
Oshawa
North York
Toronto
Mississauga
Hamilton
St. Catharines
Buffalo
Rochester
Oswego
Fulton
Syracuse
Oneida
Rome
Utica
Queensbury
Saratoga
Springs
Schenectady
Troy
Albany
Bennington
New York
Cortland
Ithaca
Corning
Jamestown
Elmira
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Binghamton
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Massac
Northampton
Springfield
Worc
Hartford
Connecticut
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Stamford
Yonkers
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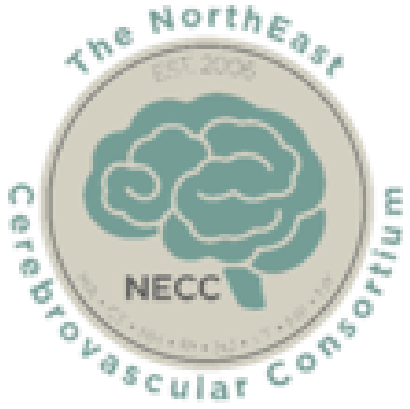

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